

18 MAY 2005

10/53555

535,553

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number  
WO 2004/047296 A1

(51) International Patent Classification<sup>7</sup>: H03K 19/0175, 19/003

(74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS N.V.; c/o LESTER, Shannon, 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US).

(21) International Application Number:  
PCT/IB2003/005198

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:  
17 November 2003 (17.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/427,413 18 November 2002 (18.11.2002) US

(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

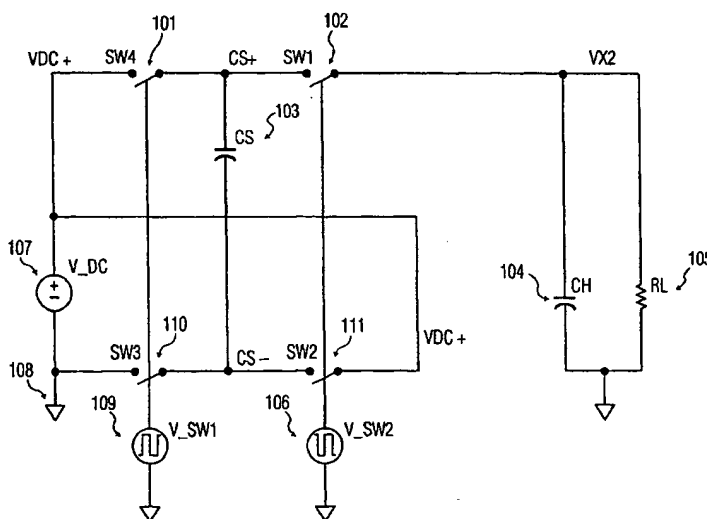
(75) Inventors/Applicants (*for US only*): DONALDSON, William [GB/US]; 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US). TOY, Edmond [US/US]; 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,

[Continued on next page]

(54) Title: INTEGRATED FLOATING POWER TRANSFER DEVICE WITH ELECTROMAGNETIC EMISSION CONTROL CIRCUIT AND METHOD



(57) Abstract: An electromagnetic emission control circuit and method are provided for a power transfer device having a floating bus (214, 215) driven by a power and data system (107, 301, 310, 103). The electromagnetic emission control circuit includes one or more switch control circuits (402, 411) coupled between the floating bus and the power and data system for facilitating charging of the floating bus and for controlling electromagnetic emission from the power transfer device by constraining a slew rate on the floating bus. In one embodiment, the one or more switch control circuits include a first switch control circuit (402) electrically coupled to a high side bus node (214) of the floating bus and a second switch control circuit (411) electrically coupled to a low side bus node (215) of the floating bus. Transfer characteristics of the first and second switch control circuits are tailored to constrain the slew rate on the floating bus.

WO 2004/047296 A1

## INTERNATIONAL SEARCH REPORT

Res'd PCT/PTO 18 MAY 2005

Internatic pplication No

PCT 03/05198

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H03K19/0175 H03K19/003

10/535553

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H03K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 154 061 A (BOOMKAMP ALOYSIUS J M ET AL) 28 November 2000 (2000-11-28) abstract; figure 1	1-4,6, 10-16,18
A	US 4 945 267 A (GALBRAITH DOUGLAS C) 31 July 1990 (1990-07-31) figure 2	1,10,14
A	US 6 052 019 A (KWONG DAVID) 18 April 2000 (2000-04-18) figure 7	1,10,14

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

16 March 2004

Date of mailing of the international search report

23/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Brown, J

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International

Application No

PCT 03/05198

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6154061	A	28-11-2000	EP 0996999 A2	03-05-2000
			WO 9957810 A2	11-11-1999
			JP 2002509682 T	26-03-2002
US 4945267	A	31-07-1990	NONE	
US 6052019	A	18-04-2000	NONE	